

Application No. 09/815,573  
Amendment Dated November 21, 2003  
Reply to Office Action of October 21, 2003

**Listing of Claims:**

Please rewrite claims 8 and 10 as follows:

1-7. (Canceled)

8. (Currently Amended) ~~A method of reducing the amount of phosphorus in cow manure, which comprises: A method of maintaining milk production in a dairy cow fed a low phosphorus diet, comprising the steps of:~~

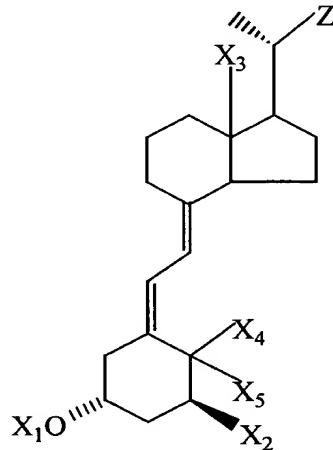
~~substituting a 1 $\alpha$ -hydroxylated vitamin D compound for some or all of the inorganic phosphorus in a diet of a cow; and replacing some or all inorganic phosphorus in a diet for a dairy cow with a 1 $\alpha$ -hydroxylated vitamin D compound; and feeding said diet to said dairy cow.~~

9. (Previously Presented) The method of claim 8 wherein said diet includes a feed, and said 1 $\alpha$ -hydroxylated vitamin D compound is fed as a top dressing on said feed.

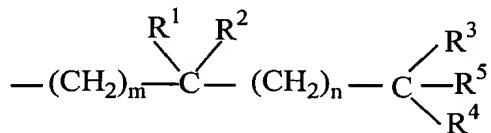
10. (Currently Amended) The method of claim 8 wherein said ~~effective amount of the~~ 1 $\alpha$ -hydroxylated vitamin D compound comprises about 0.1 $\mu\text{g}/\text{kg}$  to about 100 $\mu\text{g}/\text{kg}$  of diet.

11. (Previously Presented) The method of claim 8 wherein said diet includes a feed, and said feed contains 0% by weight of an inorganic phosphorus supplement.

12. (Previously Presented) The method of claim 8 wherein said 1 $\alpha$ -hydroxylated vitamin D compound is characterized by the following general structure:



where  $X_1$  may be hydrogen or a hydroxy-protecting group,  $X_2$  may be hydroxy, or protected hydroxy,  $X_3$  may be hydrogen or methyl,  $X_4$  and  $X_5$  each represent hydrogen or taken together  $X_4$  and  $X_5$  represent a methylene group, and where  $Z$  is selected from  $Y$ ,  $-OY$ ,  $-CH_2OY$ ,  $-C\equiv CY$  and  $-CH=CHY$ , where the double bond may have the cis or trans stereochemical configuration, and where  $Y$  is selected from hydrogen, methyl,  $-CR_5O$  and a radical of the structure:



where  $m$  and  $n$ , independently, represent integers from 0 to 5, where  $R^1$  is selected from hydrogen, hydroxy, protected-hydroxy, fluoro, trifluoromethyl, and  $C_{1.5}$ -alkyl, which may be straight chain or branched and, optionally, bear a hydroxy or protected-hydroxy substituent, and where each of  $R^2$ ,  $R^3$  and  $R^4$ , independently, is selected from hydrogen, fluoro, trifluoromethyl and  $C_{1.5}$  alkyl, which may be straight-chain or branched, and optionally bear a hydroxy or protected-hydroxy substituent, and where  $R^1$  and  $R^2$ , taken together, represent an oxo group, or an alkylidene group,  $=CR_2R_3$ , or the group  $-(CH_2)_p-$ , where  $p$  is an integer from 2 to 5, and where  $R^3$  and  $R^4$ , taken together, represent an oxo group, or the group  $-(CH_2)_q-$ , where  $q$  is an integer from 2 to 5, and where  $R^5$  represents hydrogen, hydroxy, protected-hydroxy, or  $C_{1.5}$  alkyl.

13. (Previously Presented) The method of claim 8 wherein the vitamin D compound is  $1\alpha$ -hydroxyvitamin  $D_3$ .

14. (Previously Presented) The method of claim 8 wherein the vitamin D compound is  $1\alpha,25$ -dhydroxyvitamin  $D_3$ .